

REMARKS

Reconsideration is requested.

Applicants herein affirm the provisional election of claims 22-37 (Group II) made during the March 1, 2004 telephone conversation with the Examiner.

Claims 22, 27, 28, 29, 32, 34, and 38 have been amended. Claims 1-21 have been canceled. New claims 40-47 have been added. Claims 22-47 are in this application for consideration.

Applicants submit a substitute specification with this response to replace the originally filed specification. The substitute specification is being submitted in response to January 28, 2002 notice from the USPTO. Applicants have not received a re-mailing of such notice from the OIPE, as indicated in the November 21, 2003 petition grant. It is therefore believed that the substitute specification is timely filed. The substitute specification merely corrects the margin requirements to comply with 37 CFR 1.52. The further amendments to the substitute specification are proposed to correct minor typographical errors. No new matter is being introduced by way of this amendment.

Claims 28 and 29 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which Applicant regards as the invention. Such claims have been amended and are believed to have overcome the indefiniteness rejections. Applicants request withdrawal of the rejection of claims 28 and 29.

Claims 22-35 stand rejected under 35 U.S.C. 102(b) as being anticipated by Wang (U.S. Patent No. 5,755,886).

Amended claim 22 recites, in part, providing a solid barrier wall inside the chamber to separate the injected purge material from a substrate holder, the solid barrier wall partially extending into the chamber from at least one of the chamber walls. (Emphasis Added)

The Office Action asserts that Wang at col. 13, lines 1-10 discloses the flow diverter. Wang's flow diversion appears to be related to merging of upper and lower purge gases and directing the merged gas to outside of the chamber. Wang fails to teach or suggest the above-recited elements of claim 22. There is not even a remote suggestion in Wang regarding a solid barrier wall provided inside the chamber to separate the injected purge material from a substrate holder.

Since Wang fails to identically describe every single element of claim 22, there can be no anticipation under 35 U.S.C. §102(b). Claim 22 is therefore believed to be allowable.

As claims 23-26 depend on claim 22 and recited additional patentable subject matter, they too are allowable.

Claim 27 recites, in part, separating the purge material from the substrate holder with a flow director provided inside the chamber and minimizing backflow of the purge material towards the substrate holder.

Wang's alleged flow director (col. 13, lines 1-10) appears to merge the upper and lower purge gases but fails to separate the purge material from the substrate holder. Also the Wang flow director is not provided inside the chamber to minimize backflow of the purge material towards the substrate holder as recited in amended claim 27. Claim 27 is therefore allowable.

As claims 28-35 depend on claim 27, they too are allowable.

For example, amended claim 28 recites wherein the injecting the purge material further comprises not delivering the purge material to a substrate received by the substrate holder. Neither Wang nor other references of record teach or suggest such claim feature. Claim 28 is therefore allowable.

Amended claim 32 further recites that the flow director is provided on the inner surface of the first of the chamber walls. Wang fails to teach or suggest such claim feature. For example, Wang's channels, apertures, etc., collectively alleged to be the flow diverter by the Office Action, are not provided on the inner surface of the first of the chamber walls. Claim 32 therefore presents additional patentable subject matter and is allowable.

In view of the Applicants' assertions as above, claims 22-35 are allowable over Wang. Withdrawal of such rejections is requested.

Claims 22-31 and 33-35 stand rejected under 35 U.S.C. 102(e) as being anticipated by Ohashi.

Amended claim 22 recites, in part, providing a solid barrier wall inside the chamber to separate the injected purge material from a substrate holder, the solid barrier wall partially extending into the chamber from at least one of the chamber walls. (Emphasis Added)

Ohashi fails to teach or suggest providing a solid barrier wall inside the chamber to separate the injected purge material from a substrate holder, the solid barrier wall partially extending into the chamber from at least one of the chamber walls. There is not even a remote suggestion in Ohashi regarding a solid barrier wall inside the chamber to separate the injected purge material from a substrate holder.

In view of the above, claim 22 is therefore neither anticipated nor rendered obvious by Ohashi. Claim 22 is therefore allowable over Ohashi.

As claims 23-26 depend on claim 22, they too are allowable.

Amended claim 27 recites, in part, separating the purge material from the substrate holder with a flow director provided inside the chamber and minimizing backflow of the purge material towards the substrate holder. (Emphasis Added)

Ohashi fails to teach or suggest the above recited claim feature. In fact, in Ohashi, there appears to be no separation of the straightening gas from the process gas. Therefore, there is no question that Ohashi does not use a flow director to separate the gases.

Claim 27 is therefore neither anticipated nor rendered obvious by Ohashi. Claim 27 is therefore allowable.

As claims 28-31 depend on claim 27, they too are allowable.

In view of the Applicants' assertions as above, claims 22-31, and 33-35 are allowable over Ohashi. Withdrawal of such rejections is requested.

Claims 36-39 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of DiMeo.

Claims 36-37 depend on allowable base claim 27. For example, DiMeo fails to cure Wang's deficiencies with respect to claim 27. Therefore, claims 36-37 which depend on claim 27 are also allowable over the combination of Wang and DiMeo.

Amended claim 38 recites, in part, separating the purge port purge material from a substrate holder with a flow director provided inside the chamber, the flow director being provided to partially extend into the chamber from at least one of the chamber walls.

(Emphasis Added)

Claim 38 is patentably distinct over Wang at least for similar reasons set forth above with respect to claim 22 in addition to its own independently recited features. DiMeo fails to cure Wang's deficiencies. For example, the combination of Wang and DiMeo fails to teach or suggest separating the purge material from a substrate holder with a flow director provided inside the chamber, the flow director being provided to partially extend into the chamber from at least one of the chamber walls. Therefore, claim 38 is allowable over the combination of Wang and DiMeo.

As claim 39 depends on claim 38, it too is allowable.

Claims 36-39 stand rejected under 35 U.S.C. 103(a) as being unpatentable over DiMeo in view of Ohashi.

Claims 36-37 depend on allowable base claim 27. DiMeo fails to cure Ohashi's deficiencies with respect to claim 27. Since the combination of Ohashi and DiMeo fails to teach or suggest all the elements of claim 27, claims 36-37 which depend on claim 27 are also patentably distinct and allowable over the combination of Ohashi and DiMeo.

Amended claim 38 is patentably distinct over Ohashi at least for similar reasons set forth above with respect to claim 22 in addition to its own independently recited features. DiMeo fails to cure Ohashi's deficiencies. Claim 38 is therefore allowable over the combination of Ohashi and DiMeo.

As claim 39 depends on claim 38, it too is allowable.

In this response, new claims 40-47 have been added. Such claims find support at least at Figure 1, page 4, lines 1-3, and page 12, last 3 lines of the present specification. No new matter is being introduced by way of this amendment.

Claim 40 depends on claim 22 and further recites wherein the purge curtain flowing comprises flowing the injected purge material along the one of the chamber walls, wherein the purge curtain is formed between a dead space and an injected precursor to prevent the precursor from migrating into the dead space. Neither Wang nor Ohashi or DiMeo teach or suggest such claim features. Claim 40 is therefore allowable.

Claim 41 recites, in part, providing a flow director inside the chamber to cause the purge curtain to flow into the chamber and bypass the substrate holder. (Emphasis Added)

None of the references of record teach or suggest such claim features. For example, neither Wang nor Ohashi teach or suggest providing a flow director inside a chamber to cause the purge curtain to flow into the chamber as recited in claim 41. Claim 41 is therefore allowable.

As claim 42 depends from claim 41, it too is allowable.

Claim 43 recites, in part, the purge material being prevented from flowing towards the substrate holder by a flow director, the flow director being provided inside the chamber and separating the purge curtain and the injected precursor and minimizing backflow of the injected purge material towards the substrate holder. None of the references of record teach or suggest such claim features. Claim 43 is therefore allowable.

As claim 44-47 depend on claim 43, they too are allowable.

For all the reasons advanced above, Applicants respectfully submit that the application is in condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview before issuance of any such subsequent action.

Respectfully submitted,

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